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EDITED BY DR. ANDREW WILSON, F.R.S.E. &c.

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◆ HEALTH ◆

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &c.

LONDON: *FRIDAY, MAY* 11, 1888.

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Notes by the Way

BY THE EDITOR.

"Health is the foundation of all our physical happiness."—*Herder.*

A COUNTRY hotel proprietor, who had, according to the *Scientific American*, advertised for city boarders, was astonished the other day at receiving a letter from a New York gentleman asking him to send him samples of his drinking water for analysis. It was a wise precaution on the part of the man seeking a summer home, for a great deal of illness arises from contaminated water; and if everyone seeking country board for their family would make similar investigation respecting the sanitary condition of the places they are inclined to occupy, a twofold benefit would be the result—sickness in his own family would likely be avoided, and the boarding-house keeper would be necessitated to put his premises in cleanly condition.

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DR. LOUIS PARKES, speaking of the danger of tuberculosis being communicated to man by milk derived from diseased cows, says: "Surely the time has arrived when a radical change in the present methods of milk production and milk consumption is urgently needed. In the first place it should be rendered illegal for cows known to be suffering from tuberculosis to be kept in stock by dairymen and farmers for milking purposes; and, secondly, in no household should unboiled milk be consumed, more especially by children. No other animal food is consumed by civilized nations in an uncooked state; and by the light of our recently acquired knowledge it would appear that there is as much, or more, danger connected with the practice of drinking unboiled milk as of eating raw flesh."

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"EXPOSURE to the heat of boiling water for five minutes," adds Dr. Parkes, "destroys the life and action of the tubercular virus (Klein); and the same is true of the other specific disease poisons. By such simple means, then, is it possible to guard against an ever present source of danger, as well as to obtain protection from those possibilities of the introduction into our bodies of the viruses of enteric fever, scarlet fever, and the like, which the experience of past epidemics has taught us to be latent possibilities in milk, with powers of development at the most unexpected periods. If medical practitioners generally recognized the importance of these views, and were careful to enforce them upon those entrusted with the care of delicate children of scrofulous diathesis or with hereditary tendencies to tubercle, a commencement would be made in the right direction, which would gradually extend itself through all classes of society."

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THE origin of cancer and its relations to other diseases and conditions of life is a perpetually recurring topic. Mr. Stanwell, of Rochdale, lately ventilated the question "Is Phosphorus a Cause of Cancer?" in a medical contemporary. He said, "Of late cancer has been, so to speak, more before us than ever; following closely on Sir James Paget's address we have had Mr. Haviland's notes on the geographical distribution of cancerous disease in the British Isles, with its indications of increase in cancer mortality, and of lesser mortality in limestone districts. We have had the treatment of cancer by lime salts, notably burned oyster shells, which in a way seems but a likely and fit method of supplying lime, perhaps needed, in districts where it does not so plentifully exist. We have had suggestions as to the almost probability that arsenic may in certain cases aggravate into existence cancerous disease; but we have not had, what I had looked for and hoped for, any suggestion as to the probabilities of any aggravation of the same kind caused by phosphorus.

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"ARSENIC has been used for I cannot say how long a period in pharmacy, nor have I at hand the means of

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referring back; but, in connection with phosphorus, in the British Pharmacopœias of 1864 and 1867 it existed, 'to be used in the preparation of the dilute phosphoric acid,' and the only preparations containing phosphorus were the dilute acid and the phosphates of ammonia, of lime, of soda, and of iron, the syrup of the phosphate of iron, and the antimony powder. No phosphorous oil and no phosphorous pills in their hundred and one variety were then used to any extent; since then they are *authorized* and used by the million. I have had under observation, which calls for these remarks, cases of epithelioma, which have at earlier periods of life undergone more or less extensive treatment in the form of pure phosphorus in perles or pills."

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"Undoubtedly," adds Mr. Stanwell, "the use of phosphorus has largely increased during the last twenty years; public, and I believe professional, opinion says that cancer has *pari passu* done the same during the same period. Arsenic I use often, and consider it of inestimable value in its proper place; phosphorus I believe to be a dangerous remedy, and it is certainly one that I can never prescribe, so great is my prejudice to it. I should be glad to hear, either privately or through your columns, any evidence that is likely to be be in any way confirmatory of phosphorus as an aggravation to cancer. The benefit, too, derived from lime salts, as reported, distinctly indicates a possibility, at least, that I am not entirely in the wrong."

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Under the name "Aprosexia," Dr. Guye, a distinguished ear-surgeon of Amsterdam, signifies want of attention, or inattentiveness. Although the name is recent, the thing itself is old, and quite well-known in its effects. So Dr. Guye has occupied himself, not with its effects, but with its causes. He asserts that the nose is one of the causes of aprosexia. This organ is decidedly in favour at this moment. It is not long ago that we saw the great *rôle* that it was made to play (sometimes rightly but sometimes also wrongly), by virtue of exaggerated and hasty generalizations, in the production of certain ailments. Now it is a question of its influence over the mind.

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Aprosexia, in the cases cited by Guye, appears to be due to a greater or less obstruction of the nasal fossæ, which forces the patient to breathe through the nose, thus giving the face an expression of little intelligence, as we all know, The following are the cases reported by Dr. Guye:—The first is that of a young boy, unable to breathe through the nose, or to learn anything whatever. Guye extirpated certain growths from his nasal fossæ, and the child, in eight days, knew his entire alphabet, while at the date of the operation he knew but three letters of it. The second case concerns a man of twenty, who, from the age of eight, was troubled with buzzing in his ears, and was attacked with vertigo whenever he worked. After the same operation, mental work became easy and profitable. The third case is that of a medical student, which presented analogous symptoms. The cure was affected by the same method.

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How is the influence of these nasal troubles upon the brain-functions to be explained? Dr. Guye supposes that they prevent the brain-fluids (lymph, &c.) from circulating freely, whence the origin of conditions unfavourable for the brain. It is by analogous troubles that certain headaches are explained, and it is by the same operation that Dr. Guye treats them. He believes in partial cases of the disease referable to different studies, and he has observed one that was limited to mathematics.

Original Essays

"Life is not to live, but to be well."—*Martial.*

MALT AND MALT-LIQUORS:

THEIR PLACE IN THE DIET TABLE.

By Philip Foster, M.D.

Although the feeding property of malt-liquors has long been recognized, and a little good ale found by the practical physician a useful adjunct in picking up patients after serious illness, and in strengthening the feeble and delicate, it is only quite recently that malt in the form of an extract has been placed on the druggist's shelves, and so assumed a distinctly scientific position.

The feeding power of malt is due to its property of converting starch—the great element in maintaining fat-nutrition and animal heat—into sugar, in which form alone is it capable of serving its purposes in the human economy. Indeed, it plays precisely the same part as the saliva, and, like the saliva, it should be mixed with the food *in the mouth*, as the juice secreted by the stomach interferes with its action. Malt, then, should be taken *with* food, not after, as so frequently directed; and, as its digestive action is confined to starch, and bread is our principal starch-food, an excellent plan is to spread it lightly over the bread, or it may be made into a beverage with hot water, and drunk at breakfast and tea—the meals into the composition of which bread most largely enters.

Malt, then, both feeds and warms, and, therefore, the indications for its use are imperfect nutrition and great sensitiveness to cold.

Ale and porter, like the malt from which they are brewed, possess the property of converting starch into sugar; but their influence does not end here, for through the agency of their other constituents, alcohol and hops, they produce effects which are not less important, and equally demand attention. The true *bon vivant*, whose first object in eating and drinking is not the gratification of the palate, but the maintenance of the physical and mental powers in their highest possible state of perfection, must study the capabilities of these and other articles of food for meeting our needs and requirements—and not only must this knowledge be acquired, but the effect they produce upon us *individually*, as the same things do not affect all persons alike, carefully observed.

The subject of alcohol has so frequently been considered at length in these pages that I need not do more here than briefly summarize the conclusions arrived at. Those conclusions were that alcohol in stimulating doses, *i.e.*, half an ounce, about the quantity contained in a glass of ordinarily strong, say Buxton, ale, rouses the vital energies, relieving faintness, exhaustion, and debility; promoting appetite, digestion, and nutrition, and helping to maintain animal heat; and that, except for the relief of temporary faintness or exhaustion, it should only be taken at meals, and not more frequently than twice a day.

Hops are tonic and mildly narcotic, and, unlike malt, have always held a place in our pharmacopœias. Dr. Garrod, in his able work on Materia Medica—a standard text-book—remarks: "In the form of bitter beer, taken with meals, they form a useful aid to digestion in some cases of a tonic dyspepsia." With this opinion I perfectly agree. It, perhaps, ought to be mentioned that there are persons so susceptible to the narcotic

action of hops that the small quantity contained in a glass of beer is sufficient to give rise to well marked symptoms of this character. Hop pillows have been long used as a soporific, and found by their soothing effect upon the brain to be conducive to sound and refreshing sleep.

We may, then, I think, safely conclude that the persons who are likely to be benefited by malt, *i.e.*, those in whom the vital processes are feebly and imperfectly performed, would also, with few exceptions, be helped by the stimulant action of alcohol, and the tonic effect of the hop, and that for such a better drink than our national beverage could hardly be devised. Beer, however, as ordinarily brewed in this country, is too heady to be consumed at all freely, and on this account I am in the habit of recommending Baxter's "Beer of the Future"—an ale of exquisite flavour and low alcoholic strength. I am glad to find that public taste is veering towards light drinks, for in their general adoption lies, I believe, the true solution of the temperance question.

"LIKE BEGETS LIKE."

By Dr. E. J. Dungate.

SIXTH PAPER.

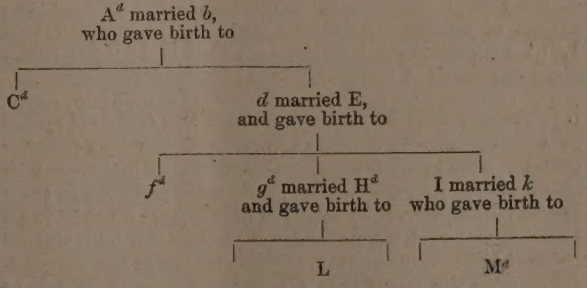
PECULIARITIES IN STRUCTURE.

Sir Walter Scott has a curious story, which shows well what the popular belief is on the subject of maternal impressions. It was said that the Redgauntlet family were all characterised by the impress of a horseshoe upon the forehead. This was first seen in a son of the relentless Sir Alberick, "whose horse had caused the death of an only son by striking him upon the forehead with his hind foot." The mother, who heard of the catastrophe at a very dangerous time, was seized with pains, and the child, when born, showed the imprint of a horse's shoe, of small size, in the centre of his forehead.

The following interesting case is given in the "Linnæan Society's Transactions," by Mr. G. Milne. At the middle of the period of gestation a cat had its tail trodden upon. It was severely injured, and she ran from the room, screaming in a manner which showed great terror as well as pain. Ultimately five kittens were born. One appeared to be quite normal, like herself; but the rest had a remarkable malformation in the tail. "About one-third of the length, reckoning from the base, there was a *nodus*, equal in size to a very large pea, or about twice as thick as the tail itself, the remaining portion being turned on one side at an angle nearly approaching a right angle; and, what may deserve notice, all of them turned the same way, towards the left side." These four kittens were all killed, and the one apparently perfect was allowed to live. This became ill, and was consequently killed, when it was noticed that although it had no knot in its tail, the tail was certainly somewhat distorted, and also turned to the side. Before the Obstetrical Society of London on Nov. 3rd, 1880, the subject of maternal impressions was introduced, and Dr. Draithwaite stated that he had seen a puppy "having a bifid and flattened forefoot, the owner of which said that during the mother's pregnancy a stone had fallen upon the foot, and crushed it similarly to the flattened foot."

In the *British Medical Journal* for June, 1862, Mr. Whitfield gives several cases of the result of impressions. "Captain H. had his arm blown off at a review. Mrs. D. F. witnessed the accident; a few months subsequently she gave birth to a daughter with the loss of one arm. Mrs. O., a lady of extreme sensibility, saw this gentleman walk into church a few months afterwards, and was greatly distressed thereby. She was confined in a few months of a child with only one arm." Dr. Montgomery, in the "Cyclopædia of Anatomy and Physiology," gives the following: "A lady, pregnant for the first time, to whom I recommended frequent exercise in the open air, declined going out as often as I thought necessary, assigning, as her reason, that she was afraid of seeing a man whose appearance shocked and disgusted her. He used to crawl along the flagway on his hands and knees, with his feet turned up behind him, which latter were malformed and imperfect, appearing as if they had been cut off at the instep; and he exhibited them thus and uncovered, in order to excite commiseration. I afterwards attended this lady, ... and her child, which was born a month before the time, and lived but a few minutes, although in every other respect perfect, had the feet malformed and defective precisely in the same way as those of the cripple who had alarmed her, and whom I had often seen." We notice also, in the *Lancet* for 1830, a remarkable instance of an accident being transmitted. Dr. Fosbroke says that a lady, who was pregnant, fell from a window at Norwich, and immediately became deaf in one ear. The child was born deaf in the corresponding ear. Judging, then, from all the evidence we can obtain, we must admit that some cases of hereditary deformity have their origin in accidental injuries to the mother during pregnancy.

It may not be regarded as inappropriate to notice here the transmission of deaf-mutism. The following diagram, which illustrates a case which is reported in the *Medical Times and Gazette* for August, 1863, shows what is meant by indirect transmission. The capitals represent males and the small letters females. The italic "d" placed above a letter shows that the person represented by the letter was deaf and dumb.



The interesting thing in this case is that the deaf-and-dumb boy, M^d, can say that neither his parents nor grandparents were deaf and dumb. Yet the defect was undoubtedly hereditary. His cousin L can say that, although his father and mother were deaf and dumb, he himself can hear. From A^d the defect was transmitted potentially to d; from d it was transmttted potentially to I; I transmttted it actually to M^d.

In the following case the heredity must have been very strong. A French writer ("Dict. des Sc. Méd.") tells of a man who became deaf at the age of forty. His grandfather, father, and two of his brothers had become deaf at exactly the same period of their lives. On the other hand, the tendency may not be developed for several generations. Dr. Loubrieu gives a case in which four deaf-mute brothers, who had four sisters quite normal, inherited the defect from a male ancestor five generations back, who became insane while a forest-ranger under Louis XIV.

In cases of intermarriage between deaf-mutes the progeny only rarely inherit their parents' defects. Sir. Arthur Mitchell remarked at one of the Morisonian Lectures in Edinburgh, that if a deaf-mute married a person in possession of the faculties of speech and hearing, the chances of their having a deaf-mute child would be as 1 to 135; but if deaf-mutes intermarried the chances were as 1 to 20. A case is often quoted of a family in Peterborough, where congenital deafness appeared in three generations out of four. Congenital deaf-mutism is, at least occasionally, if we may judge from evidence before us, the result of the union of near relatives; not because there is any mysterious influence connected with consanguinity, but because there is an increased risk of the transmission of any morbid tendency. It has been noticed that amongst rural populations the proportion of deaf-mutes is much larger than in towns and in manufacturing districts, and intermarriage seems to be the cause of this. In the Scilly Islands the proportion of deaf-mutes is large, and in the Faroe Islands, where intermarriage is the rule, there is an hereditary predisposition to insanity, almost ten per cent. of the inhabitants being mentally deranged. In the *Gazette Hébdomodaire* for 1860, it is stated that of twenty-seven girls in the Deaf and Dumb Institution of Bordeaux nine were the progeny of parents who were cousins, and six of these had seven brothers and sisters who were also deaf-mutes.

No apology is necessary for enlarging upon the subject of the effects of intermarriage, because the information is of great importance to all. Mr. Field, aural surgeon at St. Mary's Hospital, says: "Observation and experience as an aural surgeon have constrained the author to accept the conclusion that when congenital deaf-mutism is not traceable to any kind of inherited taint or family defect, it is, generally speaking, due to the close relationship of the parents, they commonly being first cousins." Dr. A. Hartmann quotes statistics which prove beyond doubt that consanguineous marriages are one of the causes of congenital deaf-mutism. In Prussia out of 1,210 congenital deaf-mutes, 156, that is 12·9 per cent., were the result of consanguineous marriages.

Dr. Galton, in a review in *Nature* for Jan., 1885, says: "It appears that there are upwards of 33,000 deaf-mutes in America, mostly collected in large institutions forming social worlds of their own, whose inmates intermarry or else contract marriages with the hearing relatives of their fellow pupils, who themselves in many cases must have an hereditary though latent tendency to deafness. This state of things has been going on increasingly for two or more generations, with the result that congenital deafness, which in other countries appears sporadically, and mostly fails to obtain an hereditary footing, has become artificially preserved in America, and is intensified by intermarriages, until a deaf variety of the human race may be said to be established."

Ribot says: "Congenital blindness may run in families. Blind persons sometimes beget blind children. A blind beggar was the father of four sons and a daughter, all blind. Dufau, in his work on blindness, cites the case of twenty-one persons blind from birth, or soon after, whose ancestors—father, mother, grandparents, and uncles—had some affection of the eyes."

We have shown that striking deformities, and also the most trifling defects may be transmitted. Harvey says: "Diseases propagate their kind, as lepra, gout, syphilis, and others. But why do I speak of diseases, when the moles, warts, and cicatrices of the progenitor are sometimes repeated in the descendants after many generations?" Knowing how strong is the tendency to hereditary transmission, every man must regard it as an imperative duty to be so careful of his life that he may bequeath a legacy to his children, for which they can be grateful.

> "How blest is he who his progenitors
> With pride remembers, to the listener tells
> The story of their greatness, of their deeds,
> And, silently rejoicing, sees himself
> The latest link of this illustrious chain!"—*Iphigenia.*

Care of the Eyes.—When the eyes have been used for a long time by artificial light and become fatigued, it is a useful plan to have at hand a lotion composed of rose or elder-flower water, two ounces; wine of opium, half a drachm; French brandy, one drachm. Mix, and occasionally bathe the eye with a fine piece of sponge. The grateful sensation of relief will be at once evident. It will allay inflammation, and preserve the sight.

An adult person inhales every minute nearly 600 cubic inches of air, or 500 cubic feet in 24 hours, or over the amount of air which is contained in a room measuring 7 ft. × 7 ft. × 10 ft high. When the air leaves the lungs, it has a temperature of 90 deg. F., and has 5 per cent. of carbonic acid more than it had before it was inhaled. Now, when we consider that air containing so small a quantity as $\frac{7}{100}$ths per cent. of carbonic acid is unfit for breathing, it can easily be understood how vitally important good ventilation and good sized sleeping apartments are for the health of the inmates.

Magazines of the Month.—*Belgravia* for May, as usual, presents us with an attractive list of stories, completed and serial both; while the *Gentleman's Magazine* is devoted to more solid literature, and forms an instructive and agreeable companion for a leisure hour. In *Harper's Magazine*, "London as a Literary Centre" will claim attention. This is the first of a series of attractive papers by R. R. Bowker. Dr. Lansdell writes regarding "Russian Convicts," but we apprehend his views will not outweigh those of Mr. Kennan, who writes on this topic in the *Century*. In the latter magazine "Siberia and the Exile System" is discussed by Mr. Kennan with great power. "Sheriff's Work on a Ranch" is a graphic picture of life under difficulties; and Professor Atwater's paper on "Foods and Beverages" will interest readers of his previous articles. *St. Nicholas* is a favourite children's magazine, and deserves fully its popularity. Its contents are very bright. *The Season* continues to take a high place as a magazine of ladies' fashions. Messrs. Cassell's serials, *The Countries of the World* and *Illustrated History of England*, represent educational works of a high order. The latter is in its nineteenth serial part. *Babyhood*, an American monthly journal, devotes itself exclusively to the care of infants and young children. It is published in England by the Babyhood Publishing Co., and appears to be sensibly conducted and properly edited.

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Personal Health

"Be timely wise;
With health all taste of pleasure flies."—*Gay.*

DIABETES.

There are two forms of diabetes. The simpler one consists in an excessive flow from the kidneys, the fluid containing neither sugar nor albumen; it is known as polyuria. The second form of diabetes is characterized by an excessive flow of urine, which is heavy with sugar. This is the true diabetes. It was not till a couple of hundred years ago that the disease was duly recognized and fully described. In 1674 Dr. Willis spoke of it as a distinct affection, "for in it the urine differed from all other fluids of the body, as if it had been mixed with honey or sugar, and having a powerfully sweet taste." Fifty-one years ago Dr. M'Gregor, of Glasgow, found that in diabetes there was sugar in the blood as well as in the urine, "and that the stomach formed saccharin matter instead of healthy chyle, which entered into the blood, and instead of forming fat, bone, and muscle, was passed into the system as sugar, and thence eliminated by the kidney."

In the year 1848 the great physiologist, Claude Bernard, discovered that the blood going to the liver (in the portal vein) contained little or no sugar, while he believed that coming from the liver (in the hepatic vein) contained much sugar. He further found sugar after death in the livers of animals, though they fed on meat. There is obtainable in commerce a product known as liver-sugar; it is insoluble, and known to physiologists by the name of glycogen. Its chemical composition is the same as that of sugar, into which it is changed by a digestive ferment in the liver. Now, the blood passes from the liver onward to the right side of the heart, thence through the lungs to the left side of the heart, and from there it is thrown out into all the arteries of the body. Bernard held that the sugar was burned by the oxygen in the lungs, and that if it were not so burnt up it would appear in the blood and urine, as is the case in diabetes. But Bernard made another great discovery. He found that irritation of the floor of the fourth ventricle at the base of the brain caused the excretion of sugar by the kidneys. This led to the conclusion that diabetes is of nervous origin.

Many do not agree with the above in every respect, but consider the liver as a store-house for sugar, and that in it the sugar undergoes conversion into fat, contributing to the formation of fat. Certain it is that after the liver is taken from the body it goes on forming sugar for a considerable time. The matter at present stands thus: We do not really know whether the cause of diabetes lies in the liver or digestive organs, or in the nervous system.

The symptoms are almost unmistakable. In many conditions the urine contains sugar temporarily, but in diabetes its presence is constant; the urinary flow may rise to fifteen or thirty pints or even more a day. The disease "may be suspected if there be thirst and an increased quantity of urine, with loss of weight, impaired physical and mental endurance. The skin is dry, the tongue is hard, red, and cracked, the digestion is faulty, and the bowels constipated. Wandering and severe pains are frequently complained of in the muscles of the calf of the leg, and these pains sometimes prevent sleep." The temperature is low, and the interest in things lacking. If inflammation or fever supervene, the sugar temporarily disappears.

The treatment of diabetes is a complex matter, and here, as elsewhere, strictest attention to the laws of hygiene is of the greatest importance. Sugars are considered bad in this disease, and are interdicted. But as any diet devoid of sweetening agents soon becomes repulsive, for two hundred years the diabetic's diet has been almost intolerable. Now it is possible to sweeten foods without sugar, and in such a manner that they are quite as agreeable as any that come from the *chef de cuisine*. The product referred to is *saccharin*, that marvellous agent which is neither food nor poison, the sweetening power of which is several hundred times that of sugar. It is used in other diseases as well as diabetes.

Mr. Spurgeon writes as follows of saccharin, though not for diabetes specially: "It must be a great thing for persons to whom sugar is injurious to be able to have their food sweetened by another and equally pleasant means. Saccharin answers all the desirable purposes of sugar to a gouty person, and yet it is not sugar, and does not go to form surplus nourishment. It is most convenient, when travelling, to have such a portable flavouring; one may carry a month's supply in the waistcoat-pocket. I regard the saccharin as a great blessing so far as my own health is concerned; and I am only one of thousands."

The tabloids are the best form to use. One of them will sweeten a cup of tea, coffee, &c., as well as sugar.

CONCERNING SLIPPERS.

Slippers, from the time that they were first invented to supply the want of a household article, as a sort of slip-shod covering for the feet, have had their various uses. The first eccentric departure of the slipper from its legitimate purpose, we think, was its application to the equatorial portion of the refractory child's body as a persuasive measure to compel obedience, or as a penalty for sins of commission. Although the Father of his Country escaped this application by a hair's breadth, no doubt many of our wise men can trace their wisdom in a great measure to the maternal slipper. So we find that the convenient slipper has its æsthetic and utilitarian uses in the domestic economy, and the average child prefers, first and always, the æsthetic. It has also been, from time immemorial, a cementing bond between the maiden and her lover, and has furnished her an ample field for the decorative art, where she has achieved considerable success in grotesque designs, in impossible birds and animals, together with love-making. And later on it follows her, in its aërial flight, as a token of good luck when she is a happy bride, and no longer embroiders slippers as an aid to Cupid.

Slippers are by no means a modern invention, as some suppose. They are the slow growth of many centuries; and though their present stage of fluttering beauty is as the butterfly to the chrysalis when compared with the ancient house-shoe, still it would be presumptuous to affirm that they have arrived at their highest possible state of beauty and elegance.

Julia, the Pompeian beauty, prized her slippers as highly as the modern belle. Those of the latter are dainty, incomparable works of art; but those of the former, in their day, were no mean adjuncts to the toilet of Julia. Her feet were incased in a pair of slippers, fastened round the ankles by white thongs; while a profusion of pearls were embroidered on each dainty foot covering, which was of purple, and turned slightly upwards at the toe, as do the Turkish slippers of the present day. There was, no doubt, a complacent satis-

faction in Julia's countenance as she surveyed the handsomely-clad feet without the aid of a modern foot-mirror.

Turkish ladies appreciate the slipper highly, and, as they are much out of doors, their opportunities of displaying their foot-gear in some measure make amends for the penalty of the *yashmak* and the hidden face. In fact, so proverbial is the gadding propensity of the Turkish women that it has given us the saying, "You are always on the street; you are as bad as a Turkish woman." Their feet were formerly incased in yellow *tchdiks*, or morocco buskins, over which *paboutches*, or slippers, of the same colour, were worn in the street. An advance has been made, however, in the Turkish woman's pedal decoration, and she now appears in all the glory of Parisian *bottines*, made up in a great variety of fancy colours. Turkish women have plenty of leisure time to lavish on the intricacies of toilet, and they produce some striking effects in decorating the person. It is no unusual sight to see one dressed in pink, including parasol, gloves, and boots; and another in green throughout, while a third would represent a bright crimson in her dress—all sitting on the steps of a marble fountain, on their cushions, with their various coloured footwear peeping out in view.

Turkish ladies have a novel use for their foot-gear which does not obtain in our country. The boot is usually made of soft, pliable leather, and is about the height of an ordinary gaiter-boot. It is wide enough at the top to permit the foot to slip in or out without fastenings, and is therefore quite loose about the ankle. Over this they wear a slipper, which is loose enough to be dropped off readily when they enter the house. In the haremlik, on board the steamers, no men are allowed except the ticket-collector. On one occasion this collector was standing before a Turkish woman, waiting for her *marque* and passage-money. She stooped over and thrust in her fingers at the top of her boot, and pulled out the desired articles, exclaiming "*zara yok!*" This is certainly convenient, and perhaps suggested the late "fad" among our female shoppers of a combination muff, satchel, &c.

These beauties and privileged travellers have also another utilitarian use for the foot-coverings which approaches very nearly to the maternal disciplinarian method among us, though in their case it is applied to adults and children indiscriminately. One of these women, in going up the steps from the steamer-landing to the bridge, accidentally caught the point of her umbrella in the loose top of another woman's boot; without hesitation or warning she turned upon the offender, pulled off her slipper, and gave her three or four slaps with it, which was no child's play when we consider that the soles of these slippers are made with a view to walking over rough places of all kinds, and are thick and stiff, and as hard almost as iron.

This is one of the privileges allowed to Turkish women as an offset to their being excluded from male society and being compelled to veil their faces in all public places; and they certainly get as much real service and amusement out of the slipper as we do, if not more.

Frogs in Commerce.—Almost all the frogs used for experiments in vivisection in the European universities are supplied by an old fishman of Kopenich, who, for forty-five years past, has devoted himself to this pursuit. Sometimes he has succeeded in catching as many as a thousand in one night. The traffic must be quite profitable, as the frogs sell for an average of two to four cents apiece.—*Period. Espan.*

Public Health

"Health is the first Wealth."—*Emerson.*

RE-VACCINATION.

The medical officer of the Local Government Board has issued the following memorandum on re-vaccination. The details of this memorandum are well worthy the attention of our readers.

The protection against small-pox conferred by vaccination in infancy becomes diminished as age advances, and the protection against attack appears to more rapidly diminish than the protection against death by the disease. Even before puberty a portion of the original protection is often lost; and this is particularly the case when the vaccination in infancy has been incomplete, having produced one vesicle instead of several, small vesicles instead of large.

Before vaccination was discovered, small-pox was for the most part a disease of children. Among the unvaccinated members of a community it is so to this day, but among vaccinated people, owing to the protection of the children and the decline of this protection as life advances, such small-pox as now prevails is principally seen in adolescents and adults.

Thus it is of importance that the protection which vaccination affords to children should be renewed for them as they are growing up; and the law has provided gratuitous re-vaccination by public vaccinators for every one on reaching the age of twelve years who has not before been successfully re-vaccinated.

A properly performed re-vaccination gives a second measure of protection equal at least to the first. Whether the protective influence of this second vaccination becomes impaired, and, if so, under what conditions, is not known.

Evidence of the additional protection against small-pox given by a re-vaccination can be found abundantly by anyone who chooses to seek for it. It can be got from the experience of re-vaccinated communities living in the midst of communities not re-vaccinated, as in the case of the permanent officials of the postal service living in London; or it can be got from the experience of nations, differing in their small-pox death-rates as their laws for re-vaccination differ; witness the contrast between the German and Austrian rates of small-pox mortality since the time when Germany, but not Austria, enforced re-vaccination upon children of school ages. Or evidence to the same effect is to be had by observing the immunity from small-pox, for year after year, secured to nurses in small-pox hospitals by re-vaccinating them before entering on their service. This last is perhaps the most obvious of all such examples; and in the few instances where there has seemed to be exception to the rule of their immunity it has almost always turned out that the requisite re-vaccination had been, by some chance, omitted.

The re-vaccination which is proper to be done for every child ought to be a matter of regular system; done as regularly, it were to be wished, as primary vaccinations are done for infants. There should be no waiting until an alarm about small-pox is raised. The importance of these considerations will be obvious to anyone who considers the conditions for the proper performance of re-vaccination. The lymph has to be obtained from cases of primary vaccination; it must not be taken from cases of re-vaccination; it ought to be used in the freshest possible state, and, whenever practicable, direct from the

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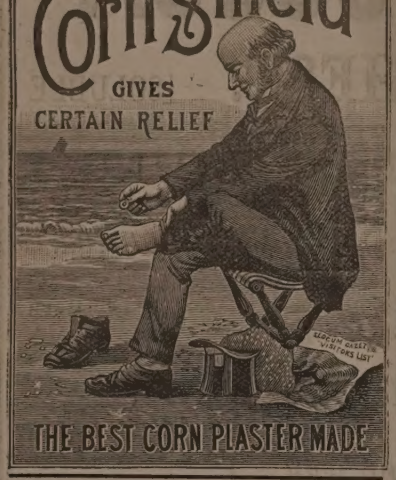

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primary vaccine vesicle. With such lymph at least 96 per cent. of re-vaccinations ought to be successful, in the sense of producing the best local result that the individual can obtain, and of giving him his full measure of additional security against small-pox.

If, on the other hand, people will defer re-vaccination until there is actual alarm of small-pox, and multitudes then present themselves for the operation at one and the same time, they must remember that the vaccinator has a first duty to infants whom the law requires to be vaccinated, and that he may at the particular moment be without lymph for re-vaccinations. Or, alternatively, the applicants may have to be re-vaccinated with stored lymph, and then failures and uncertain results are likely to ensue; in the hands of some practitioners, indeed, as many as a third of the attempts at re-vaccination with such lymph have proved unsuccessful. And this disappointment in obtaining proper vaccination will be encountered just at the time when it is of special importance that the applicants should have the full measure of protection that vaccination and re-vaccination can give.

Medical and sanitary officers and the medical profession generally are therefore invited to urge upon parents and guardians the importance of having their children re-vaccinated at the age of twelve years or thereabouts, and to urge upon all persons beyond this age who have not yet been successfully re-vaccinated the duty of obtaining for themselves the additional protection which may be had by this means.

Public vaccinators are authorized to afford re-vaccination gratuitously to all persons over twelve years of age who have not previously been successfully re-vaccinated. Under circumstances of exceptional danger from small-pox they have authority, if they see fit, to re-vaccinate applicants over ten years of age.

THE DUTY OF THE PUBLIC IN SANITARY SCIENCE.

By Dr. G. A. Collamore.

The relations of sanitary science to the general public are those of benefactor and beneficiary. The objects of the former comprise all things which affect the life, health, or physical comfort of the latter. Sanitary science aims to oppose and counteract, and, if possible, remove or destroy whatever tends to shorten the life, injure the health, or give discomfort to mankind and the domestic animals. There is hardly a relation of life into which it does not enter. It takes into consideration the houses in which we live, the streets, railroads and boats on which we travel, the schools we study in, the churches we worship in, the places of amusement we frequent, the factories we work in, our places of business generally. It concerns the infant, the youth, the adult. It takes cognizance of the air we breathe, the food we eat, the fluid we drink, the clothing we wear, the diseases which affect us and the form of death that smites us. In short, it is applied philanthropy.

It is the use of private knowledge for the public good. The acquisition of eminence in this field requires arduous study, extended and tedious experimentation, never-tiring zeal and courage. The field is so vast that no man can hope to become an expert in all its divisions. This field is so constantly widening with the progress of science that more and more cultivators are ever demanded. There is no danger that sanitation will reach the limits of its ever-expanding horizon. To a certain extent it does now, and in the future it will surely command the services of the best intellects. For what more closely concerns a man in this life than the influences which tend to lengthen or shorten his life, to bring it health or disease?

I do not assume that any argument as to the necessity of sanitary science is required to convince you of the importance of the pursuits in which you are engaged. My aim is to show, in a general way, what is done, who do it, and for whose benefit it is done. Sanitary science exists for the benefit of the general public. Sanitary scientists derive no benefit from it, otherwise than that they constitute a part of the public. Such being the situation, it appears to me that the public owes certain duties to sanitary science and its devotees; the obligations, in justice, should be mutual, or at least not so completely one-sided as at present.

The most important duty, in my judgment, owed by the public, is to investigate and understand more thoroughly the aims and scope of sanitary science. It is only by a knowledge of what it offers that its importance can be appreciated.

There is a lurking suspicion in the minds of many that the advice and services of sanitary workers, so often gratuitously rendered, are inspired by some ulterior, if not selfish, motive. They cannot comprehend why something should be given for nothing, and, therefore, are led to doubt the sincerity of sanitary effort. A closer knowledge might convince them that there are persons who are satisfied merely to enjoy a common share in the benefits they confer on mankind. These are a kind of missionaries. The gospel they preach is that of cleanliness, second only to godliness. They desire to convert the public and will do so as soon as the public understands the tendency of their efforts.

The question of the prophylaxis and control of disease is one of the most important in sanitation. It includes not only individual prophylaxis, but that of families, communities, states, and nations. It embraces isolation and quarantine, local and general. The problem how to keep out, if not prevent, is a very interesting one to sanitarians, and many of its elements are not yet fixed. It would much facilitate the solution of this problem if the profounder knowledge of scientists were supplemented by more general information on the part of the public, if the public were acquainted with a few elementary facts as to the origin and mode of propagation of infectious diseases.

It would be well, for instance, for the public to know that scarlet fever, a contagious disease producing a large annual mortality, is produced by a specific poison which emanates from the person of the patient, and can be caused by no other means, and that this poison is remarkable for the tenacity with which it affixes itself to objects which, if portable, may convey it long distances, and for its tenacity of life, which renders it difficult to destroy; that diphtheria, also a contagious disease, and largely fatal, may also arise from other causes than contagion, notably from fermenting filth, and requires not only isolation but cleanliness for its extinction; that typhoid fever and Asiatic cholera, while not directly communicable from person to person, are spread by the dejecta of their victims, which contaminate the water-supply, and thus that an efficient disinfection of these dejecta is a very desirable thing to accomplish; that small-pox may be exterminated by vaccination; and this, I am happy to concede, is a fact with which the public requires less information than most others, albeit there are sceptics here. It is evident that if the public knew how diseases

arise and are disseminated, it would be prepared more heartily and effectually to second the endeavour of sanitarians to limit and subdue them. In proportion to knowledge of sanitation would its zeal increase.

Again, it is the duty of the public to assist and promote the organization of boards of health and other instruments for the use of sanitary design. It should impress upon its legislators, whether municipal, state, or national, the importance of wise legislation in these matters, and insist on having such laws as will best attain these ends. Legislators usually have sharp ears for the wishes of their constitutents, and are easily convinced when the latter are in earnest. It is evident that legislation will only go so far as public sentiment is behind it. It is equally our duty to educate the public as for them to be educated in these things. Having secured wise laws, it is then the duty of the public to insist on their thorough execution. A machine will not run itself, neither will laws execute themselves. It is in the choice of suitable executives that the public is interested. It should demand that all laws designed to add to its length of days, its health, or its comfort, should be as fully enforced as is possible. This duty it owes to itself as well as to sanitary science.

To what exent the public ought to be informed in what is called hygiene is a somewhat difficult question. That certain elementary knowledge is desirable, there is no doubt. The necessity of pure air and water, sufficiency of light, unadulterated food, the proper disposal of waste, proper methods of building and heating our dwellings, churches, schools, places of amusement, workshops, factories, even jails and prisons, in fact, of the proper conduct of our daily physical existence, should be understood in its vital elements by all. The subject is now demanding increased attention, and the foundation of adequate information in these things is sought to be laid in the public schools. Here is a field for judicious work. The text-books to be introduced should teach what is required and not be the organs of one-idead enthusiasts.

In addition to the public schools, there are other institutions which deserve the acquaintance and support of the public. These are the direct offspring of sanitary science, and are daily giving forth results both astonishing and gratifying. I refer to those schools of bacteriology and other branches of investigation having in view the ascertaining of the causes of disease, and thereby the means of counteracting them, which have recently been established. The public should know of their existence, understand their purpose, and give them their sympathy and support.

As a corollary or result of the knowledge which the public should acquire as above suggested, would the final duty of the public appear to be evident. It is an eminently practical duty, and consists in paying for those things which sanitary science demands. In certain directions it must be conceded that the public contributes very liberally, and the tendency is to further enlightened liberality.

Medical men will testify that never have donations by private individuals to the cause of medical education been more freely offered than for the past few years. If the public thus appreciates the advantages of contributing toward the cure of disease, so much the more ought it to recognize the desirability of the prevention of disease. And yet we are aware that this is by no means the case. The organization of instrumentalities for the furtherance of sanitary science progresses but slowly. The great public, the chief beneficiary of these designs, is slow of thought, conservative, even careless. If stricken down by preventible disease, it is apt to cry out "Kismet," and submit unresistingly. Until the time comes when can really believe that "Public health is public wealth," it is to be feared that progress toward the sanitary millennium will be none too rapid.

Shorthand.—Messrs. Isaac Pitman & Sons, 1, Amen-corner, Paternoster-row, E.C., send us their manual of phonography, a new edition of this well-known work having been called for. This work may be said to represent the latest improvements in shorthand, seeing that in its pages are embodied suggestions from the principal teachers of that useful art. We are glad to note the progress shorthand is making as a branch of ordinary education, and this manual will do much, by its clear instructions, to forward the acquirement of the system associated with the name of Pitman as its originator and founder.

An English gentleman found a large turnip in his field of the shape of a man's head, and with the resemblance of the features of a man. Struck with curiosity, he had a cast made of it, and sent the cast to a phrenologist, stating that it was taken from the head of a celebrated professor, and requested an opinion thereon. After sitting in judgment it was reported that it denoted a man of acute mind and deep research, that he had the organ of quick perception, and also of perseverance. And another that indicated credulity. The opinion was transmitted to the owner of the cast, with a letter requesting as a particular favour, that he would send them the head. To this he politely replied that he would willingly do so, but he was prevented, as he and his family had eaten it the day before with their mutton at dinner.

Preserving Eggs.—It is often worth while to preserve eggs for winter use, and there are several methods of doing so. One of the best, much used in France, is to smear them with olive oil, in which a little beeswax has been melted. Many persons use butter, but this is apt to turn rancid, which the oil and wax varnish never does. Another method is to pack them in brine; and thus kept they answer for many purposes, but the yokes become too hard, and the whites too salt to be palatable boiled. Packed tightly in dry, white salt, they do better, and are pretty good even for boiling after six or eight months. A large proportion of the prizes for "preserved eggs,' opened and examined after several months' storage, at the London Dairy Show and Birmingham Show, during recent years, have gone to eggs thus packed in dry salt, large end down. Such prizes have also gone to eggs placed in lime-water or lime-cream, after greasing, and also without it; care must, however, be taken to add water now and then, or the lime may set into a hard concrete. Some processes appear uncertain: thus, eggs wrapped in paper and dipped in wax, took second prize at Birmingham in 1883, but were rotten from the same exhibitor in 1884. Even bedding in good sweet bran has answered very well for several months, and taken prizes. Another good receipt is: To four gallons of boiling water add half a peck of quicklime, and stir well. When cold pass through a fine sieve; add ten ounces of salt and three ounces of cream of tartar; dissolve and mix well, and leave to temper for a fortnight. Pour off the clear liquor, and imbed the eggs closely in this, keeping plenty of liquid over them. There is one important point: *whatever* method is used, the eggs should be treated the *same day* they are taken from the nest. More seems to depend upon this than upon the exact method adopted.—*Illustrated Book of Poultry.*

Healthy Houses

"A happy home must be a healthy home."—*Anon.*

PURE AIR WITHIN DOORS AND HOW TO OBTAIN IT.

BY AN AMERICAN SCHOOL SUPERINTENDENT,

PROVIDENCE was wondrously wise in surrounding us with this omnipresent, pervading, and diffusive ocean that we call the atmosphere. Man has only to appropriate to be blessed; but, unfortunately, as the world has grown older, man has not grown wiser in his adaptation of means. Barriers have arisen, making appropriation difficult; and, hence, the struggle of to-day is with impure air.

The following statements are truisms:

1. The dangers from impure air increase with the massing of people together. Consumption, a disease almost unknown during the colonization period, has increased with the growth of the country.

2. The architecture of the day is at fault, in a large degree, for the character of the air we breathe. In the rise from the log cabin to the stately mansion there has been a loss as well as a gain—a retrogression as well as progression. Man's folly is nowhere better seen than in the air-tight buildings that deck the land. The adequately ventilated building is the marked exception of the day.

Our stately buildings are too often whited sepulchres without, but within full of impurities, effluvia, and slow but insensible death. Consumption was not a disease incident to settlers. It comes with the tide and grows with the wealth of a country. The old log cabin, while it could not keep out the cold, also could not keep out the pure air. The native Indians enjoyed practical immunity from consumption and lung trouble. Why was this so? Clearly because the Indian never tried to commit suicide by sticking his head into an air-tight box. He breathed pure air because he could not help it. Now, I do not argue we should reverse the order of civilization and go back to nomadic life; but I do claim there is something suggestive in these facts.

3. More people are hurt by bad ventilation than by too little heat. Most buildings are kept too warm. By bad ventilation the blood is not sufficiently aerated, the temperature of the body falls, and more artificial heat is necessary. Conversely, pure air intensifies the fire within us, making less outside air desirable. People become accustomed to breathing impure air, and do not recognize its superabundance. The senses are not affected by impure air as they are by falling temperature, and therein lies the chief danger. The tendency of diseased persons to find relief in climatic change is largely because of the necessity of escaping from the character of our homes.

The necessity of our need of pure air arises, primarily, from our need of oxygen, and for the removal of poisonous carbonic acid gas and decomposed organic matter thrown off by the lungs. The air, by our breathing, thus doubly loses its vitality: first by being robbed of its oxygen, and, second, by being charged with impurities. As we begin with the air, it contains, by original condition, four parts of carbonic acid to every 10,000 parts of air. To say the least, it is not safe to breathe air more than doubly so charged, and seven parts of carbonic acid gas is bad enough. The quantity of this gas is 100 times greater in breathed air than in atmosphere. In five hours' time one person's breathing will add the additional three parts, and thus vitiate 10,000 cubic feet of air.

Therefore, it is plain for each person there should be supplied 2,000 cubic feet per hour. The old-fashioned fireplace did this completely. Even a common chimney-flue, it is estimated, will change the air of an average-sized room every twenty minutes. An ordinary gas-jet, if placed in a flue, will move 3,000 cubic feet of air per hour. It is to be regretted that the old-fashioned fireplace is now a thing of the past.

The most economic method of ventilation is the natural method, *i.e.*, by utilizing currents from ascending columns of heat. The old fireplace gave way to the heating-stove for purely economic reasons. The roar of the air through the damper as it struggled to ventilate the room attracted attention, and now we have the air-tight stove with no ventilation whatever through the stove.

Since the stove has come to stay in the majority of our homes, provisions in architecture must be made for this defect. The chimney should contain ventilating flues so heated by the smoke-flue that the impurities of the room are removed by connecting-ducts and through ventilators in the floor in remote parts of the room. Air from without must also be admitted, preferably near the stove.

From adverse experiences with the heating stove, it is not strange that there has been a marked tendency to get back to the open fire by introduction of the coal-grate. The ascending current from a single grate is sufficient to thoroughly ventilate a room of 10,000 cubic feet, with a person therein for every floor-space 4 × 5 feet. This would take care of an average-sized schoolroom, as far as ventilation is concerned.

How abundant must such a means be for the living-room? The form of fire which physicians have found desirable for invalids certainly must be a safe thing for the strong. With sanitary approval it should be noted that there is now coming a very good form of stove, combining the good features of the stove and open fire.

So much for the common or lesser means of heating and ventilation. There yet remains the two major methods—the steam-heater and the furnace. The first is popular with architects on account of economy of room, and with others because of convenience; but I cannot regard it with great favour, because it is almost always put in without any provision whatever for ventilation. When there is attempt at ventilation it is by mechanical contrivances, and hence is more expensive.

For heating and ventilation of our larger homes, churches, schools, and other public buildings, I know of nothing that can approach the excellent work of the warm-air ventilator—not a stove with a big name and placed in the basement, where, to furnish its lifeless, heated air, it must be kept red-hot—but a great, big, smiling, good-natured iron monster, with avoirdupois enough to hold a constant temperature, and lungs and windpipe sufficiently capacious to ventilate with a perfect flood of moderately-warmed air, and not by a small quantity of red-hot air. Such a furnace will cost a considerable sum for its first cost; but, in the end, think of the saving in fuel, in labour, in repairs, in temper, and particularly in lung-tissue, and, consequently, in life itself.

But adequate ducts for removal of impure air, under the control of a suction-stack operated by the waste heat of the smoke-stack, the ventilation is practically self-acting; the house literally breathes; and good, buoyant, and normal health is the result.

Certainly, there is no reason why we should not all have pure air. It is abundant, inexpensive, and obtainable. There is no excuse whatever for the lamentable ignorance that deprives us of this great necessity of life.

A Precaution.—A dentist advised a man to have a tooth taken out, assuring him that if he inhaled gas he would feel no pain, "What is the effect of the gas?" "It makes you insensible," said the dentist, "and you don't know what takes place." The man took out his money. "Oh, never mind the fee until afterwards," remarked the dentist. "I wasn't thinking of that," said the patient; "I only wanted to see how much money I had."

Oil of peppermint is recommended by Dr. Leonard Braddon as a cure for consumption. He places ten drops of the oil on cotton wool in a Mackenzie's naso-oral inhaler, the charge being renewed every few hours. The inhalations are continued for six weeks, and appear to be beneficial in all cases, although it was only in cases of early phthisis that a cure was effected. "It is possible," says the writer, "that there lies in oil of peppermint a power for good and a field of therapeutic utility vaster in extent and importance than any yet known or suspected."

Marshall's Farola.—"Farola," says a contemporary, is the name of a novel preparation of wheat which, in our opinion, is well worthy of the attention of chemists and druggists, since it is likely to become extremely popular amongst their customers, while it has already gained the warm commendation of many of the faculty. Eminently nutritious, very easy of digestion, and, even without auxiliary flavouring, extremely palatable, "Farola" differs from the generality of "prepared foods" of the same class in being free from the mawky insipidity which characterizes them, as a rule. It can thus be used for a variety of culinary requirements, not only for invalids and children, but as an ordinary domestic pudding material also, for which latter purpose it is particularly well adapted. Being in the form of a very finely-granular, but not impalpable, powder, it cooks readily and quickly, but is less liable to get lumpy than many of the flours and farinas commonly sold. "Farola" can be employed as an arrowroot substitute, but as, according to a well-known chemist, who has examined the preparation, it is highly nitrogenous and contains a large proportion of wheat phosphates in an easily assimilable form, it is of course far more nutritious than corn-flour, or than arrowroot itself, these being simply varieties of starch, more or less pure, and practically devoid of nitrogen and phosphorus. Several good recipes for infants' food, blanc-mange, soufflée, custards, and other puddings are issued with each packet of "Farola," and the trade will doubtless find it advantageous to avail themselves of the sample packages also supplied by the manufacturers, for giving away to their customers. This practice, if judiciously persevered in, invariably creates a good demand for the article, the intrinsic good qualities of "Farola" being such that all those who have once tried it come again for a further supply, and afterwards require the food regularly. With yeast or baking powder, and a due admixture of sweetening and flavouring adjuncts, "Farola" makes very tasty and wholesome cakes, biscuits, &c., while for that rather numerous class of persons who do *not* like gruel or porridge, it affords a means of replacing these with a nutritive, non-irritant, farinaceous food of considerable merit. We have, therefore, no hesitation in recommending "Farola" to the notice of our friends as being likely to sell well and to please their customers wherever it is put before them.

Popular Science Papers

"Blessings on Science! When the Earth seemed old,
When Faith grew doting, and our reason cold,
'Twas she discovered that the world was young,
And taught a language to its lisping tongue."
—*Charles Mackay.*

ON THE POWER OF MUSIC AND ITS PLACE IN MEDICINE.

By Guy C. Rothery.

SIXTH AND CONCLUDING PAPER.

Though instrumental music may be of some indirect use in anæmia and pulmonary phthisis, it is quite certain that vocal music is of immense service both as a curative and a preventative. Pulmonary diseases are comparatively rare with singers. Singing strengthens the chest and many of the internal organs. As a curative, where disease has not advanced too far, it has been recommended for weakness of chest, affection of bronchia, larynx and lungs, and in certain phases of mental pressure. When judiciously employed and carefully regulated it is also of use to sufferers from melancholia, hypochondriasis, hysteria, and mental affections generally.* Some authorities assert it to be equally efficacious for jaundice, liver complaints, and indigestion.† In these latter cases we must look upon singing and music as merely indirect remedies, acting by virtue of their power to accelerate the circulation, promote freer breathing and regular digestion, &c. Other authors are anxious to claim it as a means of cure or preservative against obesity. But this is hard to believe, especially when we reflect on the *physique* of certain very popular *prime donne* and masculine operatic favourites.

Surgeons have advocated the use of soft and soothing music, instrumental or vocal, during the performance of painful operations. Army surgeons, indeed, have been known to adopt the plan; notably some of the military "sawbones" of the Great Napoleon's time. But in these cases we may be pardoned, and perhaps we shall not be far out, if we shrewdly guess that their partiality for the "sweet and ennobling art" arose from mixed motives. They probably found the practice useful in order to drown the cries and moans of poor fellows while under the knife, and subjected to the unavoidably hasty treatment following a severe battle. The "tusk-pullers" of old who frequented fairs and market meetings, and do so still in Italy and Provence, were equally ardent patrons of the drum and fife. Just on the same principle the practisers of circumcision, during adolescence, in Africa and some parts of Asia employ music during their ceremonies.

On the whole, however, we fancy that even the most ardent admirers of music will be inclined to fancy music out of place in practical surgery; for, even admitting its indirect soothing effects as very great, in this connection the application of music would be far more fraught with probable danger than possible good.

As a preservative, music and singing must take a high stand, for not only are they mental helps, as so many brain-workers testify, but, in the case of singing, by exercising the various organs of the throat and chest

* Consult "Dramatic Singing Physiologically Estimated," by Walter Hayle Walshe, M.D., London, 1881.

† Chomet, Richard Browne, &c.

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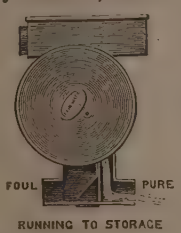

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Over the Sunshine of Existence Hangs a Dark Cloud.

WITH the uncertainty of life is mingled the dark mystery of death! While, on the one hand, we catch the welcome sound of a new breath of life that tells of an addition to our species, on the other, we shudder as we hear the rushing wings of the Destroying Angel! The mighty voice of the Great Influence which rules the Universe has pronounced our fate; the dread fiat has gone forth, and every man is doomed to die! But, though we cannot prevent, can we postpone death? The question is momentous, even if it concerns the prolongation of life but by a single hour, inasmuch as every instinct prompts us to fight the boldest battle we can for this glorious boon of existence. The promptings of instinct are but the spontaneous voices of nature, and it is our duty to obey. But there still remains the question, *Can* Death be postponed by a single hour? Yes; for the world works in obedience to certain laws; and a study of these proves that those who have the judgment and the will to buckle on the shield which nature places ready to their grasp may ward off the insidious attacks of the implacable enemy of life, until, in a ripe old age, the vital faculties gradually decay, and the Angel of Peace glides softly into our presence, leading us, as it were, in a gentle slumber, to the regions beyond the shadow of the tomb.

The Fell Destroyer makes his first approaches in many forms, but none are more favoured by him than that of a deadly foe now preying upon the very vitals of modern society. What is this foe? There are few among us who have not been or are not now to some extent its victims. Would the reader know if he, too, is under the ban of this frightful scourge? Let him ask himself whether he experiences any of the following symptoms:—

Pains about the chest and sides, and sometimes in the back. The mouth has a bad taste, especially in the morning, and there are feelings of dulness and drowsiness. The appetite is poor, a sort of sticky slime collects about the teeth, there is a feeling as of a heavy load on the stomach, and sometimes a faint, all-gone sensation at the pit of the stomach, which food does not satisfy. The eyes are sunken, the hands and feet become cold, and feel clammy. After a while a cough sets in, at first dry, but attended in the course of a few months with expectoration of a greenish colour. The sufferer feels constantly tired, and sleep seems to afford him no rest. Nervousness, irritability, and evil forebodings follow. When rising suddenly there is a giddiness, a sort of whirling sensation in the head. The bowels become costive; the skin is dry and hot at times; the blood becomes thick and stagnant; the whites of the eyes are tinged with yellow. There is frequently a spitting up of the food—at times with a sour taste, and at others with a sweetish taste. This is often attended with palpitation of the heart or impaired vision, with spots before the eyes, accompanied by great prostration and weakness. All of these symptoms are in turn present.

It is thought that nearly one-third of our population has this disease in some of its varied forms. Medical men have mistaken the nature of the malady. Its true name is Dyspepsia or Indigestion, for which a certain remedy is to be found in Mother Seigel's Curative Syrup—a medicine which has won in both hemispheres a confidence founded only on its great virtues.

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cavity, they are greatly strengthened. Singers, Dr. Walshe tells us, are rarely attacked by catarrh, and are singularly free from kindred affections and chest complaints.

We find 'In our experience that it stirreth the voice, spreadeth the instruments thereof, and craveth a clear passage, as it also lighteneth the labourer, and increaseth his courage in carrying of burdens." Thus wrote learned Richard Mulcaster, master of the Merchant Tailors' School. He deemed music of the utmost importance in education, and was not content to rest his opinions entirely on precedent, on the doctrines of Pythagoras and the giants of antiquity. "It is wonderful," he says, "that which is written and strange that we see, what is wrought thereby in nature of physick for the remedying of some desperate diseases. . . . The philosophers and physicians do allow the straining and recoyling of the voice in children, yea, though they crie and bawle, besides their singing and showting, by the waie of exercise to stretche and kepe open the hollow passages and inward pipes of the tender bulke, whereby music will prove a double principle, both for the soule, by the name of learning, and for the body by the waye of exercise." This is now pretty generally recognized. In the United States of America the principle has been almost universally adopted. At Harvard College the teaching staff and students resolved, many years ago, that music was "entitled to her representative in every temple of science. Her genial presence should be felt in every nursery of young minds." In the grammar-schools of Boston and many other cities of the States vocal music has been made a part of the usual educational course. In Germany and, indeed, on the Continent generally, educational vocal and instrumental music is far more commonly called in during the instruction of youth than it is with us. We have done a great deal of late to remedy our backwardness, but much still remains to be done in this direction.*

Of the soothing effects of music and its preventative character, or perhaps we should rather say preservative powers, we can have no doubt, and hope that the reader will be of the same opinion. Whether we are to attribute these virtues to the doctrine of spirituality of Beethoven and other honoured *Maestri*, or to the specific "tone ether" theory of Chomet, we rise from our task undecided. A third hypothesis remains, that "It is from the mechanical and involuntary connection between the organs of hearing and the consonances excited in the outward air, joined to the rapid communication of the vibrations of this organ to the whole nervous system, that we owe the cure of spasmodic disorders and of fevers attended with delirium and convulsions, of which we have many examples."†

But if we are ready to accept the general premises, namely, the therapeutical and preservative potentialities of music, what need to wrangle over the occultisms of theorists? Enough for us that music has a decidedly practical value—directly as well as indirectly.

* That the ancients fully understood the importance of music we see by the educational course of Greek youth:—

I.—Theoretical.		II.—Practice.	
1st	Arithmetic.	Composition.	Rhythm.
	Physics.		Melody.
			Poetry.
2nd	Harmony.	Execution.	Instrumental.
	Rhythm.		Vocal.
	Metrics.		Dramatic Action.

† M. de Mairan, Mem. de l'Acad. des Sci., Paris, 1737.

VEGETABLE AND ANIMAL ALBUMEN.

By W. Bernhardt.

However numerous and prolific our investigations into the composition and properties of organic bodies may have been, we yet are very imperfectly acquainted with those processes by which these manifold forms of matter originate from simple constituents of air and water, and are as yet unaware of the causes on which the changes are depending that they undergo during life. We are acquainted with the artificial preparation of many of them, and still our experience is not sufficient to explain their natural origin.

We may produce oxalic acid, a body contained in the juice of many plants and also in certain animal secretions, by heating sugar together with nitric acid, but this is not the natural process of its formation, nor does it explain it. We imitate Nature in preparing grape-sugar from starch, but our method is different from hers, although the sugar we make by treating starch with hot dilute acids is identical with the product of the natural act of fermentation (caused in germinating grain by diastase, a product of decomposition of albuminous matter). It was considered a success of the highest scientific consequence, when Wöhler found out a way of artificially preparing urea, a matter resulting from the decay of muscular fibre in living animals; but yet, about sixty years after this event, we do not understand the chemical changes leading to that result. In a thousand other questions concerning the chemistry of human, animal, and vegetable organisms, our researches for finding satisfying interpretations have been futile, and even the most important query concerning the origin of life is likely to remain unanswered for many years to come.

There is a certain class of organic nitrogenous compounds, the origin, chemical nature, and decompositions of which are particularly far from being cleared up, although they concern the most indispensable functions of our own life, and are essential to vital energy in animals. Misunderstood, as many of their properties are, the facts which we know about them suffice to justify the high interest in their study which is manifested by chemists and physicians, as well as by the educated public in general. They are comprised under the name of albuminous matter, and have a very complex constitution, containing carbon, oxygen, hydrogen, nitrogen, and a small amount of sulphur. One of the chief features of their chemical character is a remarkable liability to decompose into the most various products. The best known representatives of the group are—

1. Albumen, chief constituent of the white of egg and of blood serum, dissolvable in water of common temperature, the dissolved matter coagulating and becoming insoluble when heated to 70° C.

2. Casein, dissolved as cheese in milk, coagulating upon addition of acids or certain ferments and warming.

3. Fibrin, coagulating from blood upon its exposition to air.

Plants are the manufacturers of albuminoids, or proteids, as they are also called; transformation of carbonic acid, water, and nitrogen, which are permanent constituents of the atmosphere and soil, into those combinations which constitute the body of plants, and which are designed to effect their propagation, is the chief function of the roots of plants. Among these combinations albuminoids are the most important, both for the vital process of the plants and as food for animals. From this reason the question of their origin has induced numerous investigations, to which we owe the knowledge

that certain other nitrogenous bodies, called amides, which in varying amounts seem to be present in the roots of all plants at the time of beginning growth, play a prominent part in the genesis of albuminoids. The amides best known are asparagin (originally found in the shoots of asparagus) and leucin. The conclusion to which these researches have led is that sugar is formed in the root partly from starch by the action of diastatic ferment, partly by direct assimilation out of carbonic acid and water. Combination of sugar with one of those amides results in the formation of vegetable albumen, from which the rest of the proteids are derived by slight variations of chemical composition. Vegetable albumen being of a very unstable nature, is partly again decomposed into amides and sugar, and, while the latter is used in accomplishing the structure of the plant by changing into cellulose, the amide is again transformed into albuminoid, and by decomposition reduced to amides. Thus, by continually assimilating carbonic acid and water, combining with them to form albuminoids, and giving them off again as sugar, the amides act a prominent part in the development of plants. New supplies of amides, in the meantime, are continually formed, while the albuminous matter is partly transferred to remote organs, where, exposed to light and other agents, it undergoes various decompositions, by which the deposits of solid proteids, alkaloids, and many other bodies are produced. A certain quantity of proteids becomes stored up in the seeds, modified into gluten, or legumin, for the purpose of hereafter entertaining and supporting the life and growth of the offspring. Vegetable albumen, gluten, and legumin so closely resemble animal albumen, fibrin, and casein, that the same names have been given to them.

In thus tracing the origin of albuminoids in plants, we see them partly dissolved as vegetable albumen in the juice (upon the heating of which coagulated albumen gathers as foam on the surface), partly as "plasma" forming the contents of cells, and partly as solids in various organs, but chiefly in the seed, which by their presence acquires more or less valuable properties as food for animals, the nutritive value of grain and leguminous products being due merely to the high percentage of gluten and legumin contained in them.

Plants, indeed, are the sole source on which most animals depend for their food, for they are incapable of assimilating the constituents of air and water, as vegetables do. Only in the most simple forms of animals, such as moneres and amœbæ, the question is undecided whether such an assimilation takes place or not; but our knowledge of the limits between these low forms of vegetable and animal beings is very imperfect, and, in view of the numerous parasitic plants which draw their food from other organisms, we cannot declare the source and process of nourishment to be a correct and pervading mark of difference between the two classes. If, however, some one should raise the objection that animals of prey do not depend upon plants for food, he might easily be corrected by showing that, in feeding on vegetable-eating creatures, they "indirectly" live on the plants themselves.

The changes which vegetable proteids undergo by being taken up into the animal organism are insignificant at first; having been transformed into soluble bodies (peptones) by pepsin, the digestive agent of the stomach, we see them appearing again in the circulation of blood as albumen, globulin, fibrinogen, combinations of very similar character to the proteids of plants. There is, indeed, no practical difference existing between albumens and legumins. The proteid of beans, peas, lentils, &c., is identical with casein, the proteid of cheese, as to composition and properties.

Blood, upon leaving the vein, is separated into a liquid and a solid part by fibrinogen, one of the proteids dissolved in it, undergoing a change, by which it becomes insoluble fibrin; muscular plasma, the semi-solid constituent of muscular fibre, by solidifying after death, and changing into fibrin, affords the well-known phenomenon of *rigor mortis*. It is a process closely resembling these, by which one of the soluble proteids of gluten, by accession of air and water, is transformed into insoluble gluten fibrin.

(To be concluded.)

Germs in the Air.—In the interesting paper read by Dr. Percy Frankland at the Society of Arts, on the subject of atmospheric micro-organisms, he pointed out that Koch's introduction of solid cultivating media had greatly facilited these investigations. He had also largely used Hesse's glass tube coated internally with sterile gelatine peptone, through which a given quantity of air can be drawn by aspiration. The estimation of the abundance of microbes in the air is made by enumerating the number of colonies obtained in a given quantity (ten litres) of air, and the following results were obtained. On the roof of the Science Schools at South Kensington, the average number of colonies varied from four in the month of January to 105 in August. On the top of Primrose Hill in May the average number was nine; at the foot of the hill it was 24; at St. Paul's Cathedral the average was 11 in the Golden Gallery and 70 in the Churchyard. The air contained much fewer microbes in country places than in towns, there being, for instance, no less than 554 in ten litres in the Exhibition Road, when crowded, on June 8th, 1886. Dr. Frankland stated that the air in a hospital ward, provided it is undisturbed, contains very few organisms, and his investigation shows the importance of preventing aerial commotion during surgical operations, and of removing dust in a moist condition.

The Air of Edinburgh Theatres.—An interesting account has been given by Mr. Cosmo J. Burton of the amount of carbonic acid and organic matter in the Theatre Royal and Royal Lyceum Theatre in Edinburgh. At the time of the experiments the theatres were by no means full; nevertheless, the temperature was from ten to fifteeen degrees above that recorded immediately before the houses were opened, while carbonic acid was multiplied from three to five times. Mr. Burton remarks that the vitiation of the air proceeds with extraordinary rapidity at first, but the rate of change soon decreases, till towards the end of the performance the air becomes little or no worse, and, indeed, in a few instances it appeared to slightly improve. The atmosphere of all parts of the theatre was not equally vitiated; the air of the gallery was considerably worse than that of any other part of the house; the amphitheatre, dress-circle. and pit did not come in the same order as to degree of impurity in the experiments, but the pit was always worse than the dress-circle. The late Dr. Parkes stated that headache and vertigo are produced when the amount of carbonic acid in the air of respiration is not more than from fifteen to thirty volumes per 10,000, and our experience of some theatres leads us to suspect that Mr. Burton's results are not special to Edinburgh. The facts as to all theatres ought to be known; for the public had much better lose an evening's enjoyment than submit to the enforced inhalation of a polluted atmosphere for a number of hours.—*Lancet.*

Jottings from the Journals

"Th' ingredients of health and long life are
Great temperance, open air,
Easy labour, little care."—*Sir Philip Sydney.*

The Cultivation of Oysters.—A report from the British Consul at Baltimore on the oyster fisheries at Maryland, which has just been laid before Parliament, contains much interesting information respecting the cultivation of oysters. The method of farming most successful in America consists in depositing clean oyster-shells upon the bottom, just before the spawning-season, to which the young attach themselves, and then placing among the shells a few mature oysters to furnish eggs and young. As soon as the young oysters caught in this manner are large enough to handle, they are distributed over the bottom. Another system is by artificial propagation, properly so called—that is, by producing the seed-oyster itself, or procuring it by methods less simple than the shell-sowing process. This method is due to a discovery by Dr. W. K. Brooks that the *Ostrea verginiana*, or American oyster, is not, like the *Ostrea edulis*, or oyster of Northern Europe, hermaphrodite, but is exclusively male or exclusively female. The eggs of the European oyster are fertilized within the valves of the parent, while in the case of the American oyster, fertilization takes place in the broad and open waters. By experiment Dr. Brooks discovered how artificial fertilization could be procured, and the next great step of finding a simple and practical method of rearing the young oysters which have been hatched artificially was the work of M. Bouchon Brandslé, the French naturalist, who experimented with Portuguese oysters, which, like the American variety, are of distinct sexes. He succeeded in rearing many seed-oysters fit for planting. Another highly important industry which is springing up in the United States, and which also owes its existence to a careful study of the habits of the bivalve, is that of "muzzling" oysters, by which they can be sent long distances in their shells with perfect safety. Until recently the general practice was to pack the raw oysters in ice, but a sudden rise of temperature is liable to render a whole week's supply useless. Oysters feed twice a day; and always at the still moment preceding the turn of the tide, and at no other time, except when feeding, do they open their shells. When taken out of their natural element, they attempt to feed at regular intervals, and so soon as the shells open, the liquor they contain is all lost, the air takes its place, and the oyster is covered with a thick coating of slime, which is the first stage of decomposition, As long as the shells are closed the oyster is fit to eat; it feeds on the liquor in the shell, and will thus keep in good condition for a considerable time. To secure the keeping of the shells closed, a method has been invented of tying them with stout wire, which can be done with great rapidity, and now arrangements are being made for dispatching American oysters in their natural condition all over the civilized world.—*Nature.*

The Preservation of Meat. — A method of preserving meat is by surrounding it with gases with good antiseptic properties. Among these gases sulphurous and nitrous acids rank high. Science will some day succeed in making this plan successful and practicable. At present the objections and difficulties are serious. There is difficulty in removing the atmospheric air in and around the meat, the latter for the purpose being placed in tins, and there is the objection, a reasonable one too, that meat preserved by immersion in an antiseptic gas, acquires an unpleasant flavour. A curious modification of this plan has been patented. It consists in filling tins with a preserving gas, which expels the water introduced to occupy the spaces in and around the meat. As soon as the antiseptic fluid is admitted the tins are hermetically sealed, and the introduction of atmospheric air stopped. The success of this plan has not been what could be desired. A certain percentage of tins are found, on the arrival in this country, to contain putrid meat, the remainder have the agreeableness and market value of their contents so much diminished that the meat commands a lower price than fresh meat; and even then some persons think it dear.

IMPORTANT ANNOUNCEMENT.

BONUSES TO THE SUBSCRIBERS TO "HEALTH."

HEALTH, as our readers are aware, may be obtained of all Booksellers and Newsagents, and at the Railway Bookstalls, on the day of publication. It may also be ordered from the PUBLISHER, 2, Paternoster-square, London, E.C., who will send the journal, post free, for a year, on receipt of postal orders for 10s. 10d.

As many of our readers who live in remote districts prefer to obtain HEALTH from the Publisher direct, and as we are desirous of increasing the already large number of subscribers who give us a yearly order for the journal, we take the opportunity afforded by the COMMENCEMENT OF A NEW VOLUME to offer the following FREE GIFTS and BONUSES to all who subscribe to HEALTH for one year or longer:—

(1.) To each Subscriber who remits 10s. 10d. to the Publisher, entitling him (or her) to receive one copy of HEALTH, post free, for one year, we shall present a copy of Dr. Andrew Wilson's work, entitled "A Manual of Health Science" (Longmans & Co.), value 2s. 6d.

(2.) To each subscriber who remits 21s. 8d., entitling him or her to receive two copies of HEALTH weekly, post free, for one year (or one copy for two years), we will present Dr. Richardson's "Ministry of Health" (Chatto & Windus), value 6s. The copies of HEALTH so ordered may be posted to separate addresses.

(3.) To each person who subscribes 32s. 6d., for three copies of HEALTH, post free, weekly, for one year, we will present the volume by Dr. Richardson mentioned above, and also the handsome, illustrated book entitled, "Studies in Life and Sense," by Dr. Andrew Wilson (Chatto & Windus), value 6s.—being a free gift of the total value of 12s.

The bonus last mentioned will also be presented to anyone who succeeds in obtaining three yearly subscribers to HEALTH, and who remits to the Publisher the sum of 32s. 6d., together with the names and addresses of the persons to whom the copies are to be posted each week.

As the literary gifts above-mentioned constitute books containing solid and reliable information regarding health and other matters of popular scientific interest, it will be seen that the above scheme, while intended to increase our already large circulation, also offers distinct advantages to new subscribers who guarantee by their subscriptions a year's support to this journal. All communications regarding subscriptions and other purely business details connected with HEALTH should be addressed directly to the PUBLISHER, 2, Paternoster-square, London, E.C., and *not to the Editor.*

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(TRADE MARK.)

PULVERMACHER'S

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FOR the CURE of NERVOUS DISEASES.
HAVE RECEIVED TESTIMONIALS from
THREE PHYSICIANS to
HER MAJESTY the QUEEN,
THE ACADÉMIE DE MÉDECINE of Paris and
FORTY MEMBERS of the
ROYAL COLLEGE of PHYSICIANS of LONDON.

RECENT TESTIMONIALS.

GALVANISM *v.* SLEEPLESSNESS AND NERVOUS EXHAUSTION.

Castle-street, Bolsover, May 1, 1888.

Dear Sir,—I have no hesitation whatever in saying that your treatment has been a great comfort and help to me. I have worn the Belt regularly for some time, and the result has been a marked increase of strength and vitality, and I also have enjoyed more natural sleep at nights than for a long period before.—Yours faithfully, L. PARKIN.

Mr. J. L. Pulvermacher, 194, Regent-street, W.

GALVANISM *v.* NERVOUS WEAKNESS.

Toulon-vale, Guernsey, 28th April, 1888.

Gentlemen,—I am pleased to say I have derived much benefit from your Galvanic Belt already. My skin is now clear and soft, and my face is quite free from pimples.

My nervousness is very nearly gone, and my health and strength is greatly improved.—Yours sincerely, HY. F. GREEN.

Messrs. Pulvermacher & Co., 194, Regent-street, W.

GALVANISM *v.* NERVOUS EXHAUSTION.

10, North Parade, Blackpool, April 17th, 1888.

Dear Sir,—I have much pleasure in recommending your Electric Belt, as I have worn one for three months, and have found great benefit from the treatment. I have given your Belt a fair trial, and can safely recommend it to any one.—Yours truly, (Miss) M. A. SLACK.

Mr. J. L. Pulvermacher, 194, Regent-street, W.

GALVANISM *v.* WEAKNESS OF THE BLADDER AND NERVOUS EXHAUSTION.

Northumberland-avenue, W.C., April 14, 1888.

Gentlemen,—I purchased one of your Galvanic Belts some days ago for Weakness of the Bladder and Want of Nerve Power, and find already quite an improvement; but what has surprised me most has been the increased nerve power and vital energy, which from my age I supposed was not possible.

I am quite sure that there is a restorative quality in electricity which can be utilised largely in curing many physical and nervous maladies.

Yours very truly, JAMES MURTON.

Messrs. J. L. Pulvermacher & Co., 194, Regent-street, W.

GALVANISM *v.* EXTREME NERVOUS DEBILITY.

24, Clayton-place, Markerend-road, Bradford, 2th April. 188

Dear Sir,—I cannot tell you how much good your treatment has done for my daughter, who was suffering severely from loss of voice, cramp, and general debility. Year after year she has suffered from these distressing complaints, and nothing did her any good, but after wearing your Galvanic Belt for two months she is now quite well, and better than she has ever been before. Everyone that knows her is greatly surprised, and thinks she is a living wonder. May God bless you in your efforts to relieve suffering mankind, and I cannot thank you too much.—Yours respectfully,

Mr. J. L. Pulvermacher, 194, Regent-street, W. EMMA HENSHAW.

GALVANISM *v.* ST. VITUS' DANCE.

34, Moon-street, Morice Town, Devonport, 5th April, 1888.

Dear Sir,—I feel it is my duty to send you a testimonial for the good I have obtained from your combined Band for St. Vitus' Dance.

Before I wore your appliance I could not walk across the room for fear of falling down, but I began to get better from the first day I wore your Belt, and now I am perfectly well and able to return to my work.—Yours truly,

Mr. Pulvermacher, 194, Regent-street, W. J. TAYLOR.

GALVANISM *v.* RHEUMATISM.

Mansfield, Reading, March 30th, 1888.

Dear Sir,—I am thankful to tell you that I have derived great benefit from your Galvanic Belt. After wearing it twenty-four hours I was able to walk; and now, at the end of six weeks, I am quite cured of inflammatory Rheumatism.—Very faithfully yours, (Rev.) G. IBBERSON TUBBS,

Mr. J. L. Pulvermacher, 194, Regent-street, W. St. Mary's, Reading.

GALVANISM *v.* NERVOUS EXHAUSTION.

The distressing symptoms of Nervous Exhaustion and Debility are speedily removed by means of PULVERMACHER'S world-famed GALVANIC BELTS, which are so arranged as to convey a powerful electric current direct to the affected parts, gradually stimulating and strengthening all the nerves and muscles, and speedily arresting all symptoms of waste and decay.

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UNSELFISHNESS IN SANITATION.

IT is one of the blessed prerogatives of childhood to remain in happy ignorance of the anxieties and cares, the schemes and forethought, which fill the minds of those who maintain about them the comforts of their homes. For all they know to the contrary, those comforts come to them with as little effort or design on the part of anybody, and are as far beyond the possibility of miscarriage as the sun which cheers them at play. They will sleep in full assurance of awaking to their customary bountiful repast, while their parents are sleepless with the anticipation of reverse of fortune. But that which is natural in the child is thoughtless and even sinful in the man or woman. We ought to know something of the social machinery which is kept moving around us. We ought not, because *our* bread and water is made sure, lazily to take for granted that the bread and water of others gives them as little concern. We ought not to preen and expand *our* virtues to the sun in our self-contained houses, putting them in proud contrast with the vices of those who live in one-roomed houses, without asking ourselves how far both the virtue and the vice are native to the physical circumstances in which we find them.—*Dr. J. B. Russell.*

Our Letter-Box

"Conference [maketh] a ready man. —*Bacon.*

NOTICES TO CORRESPONDENTS.

All Communications for the Editorial Department (including Books for Review, Specimens of Sanitary Appliances, &c.), to be addressed to "THE EDITOR OF HEALTH," 2, PATERNOSTER-SQUARE, LONDON, E.C. *Those intended for the Publishing Office to be sent to* MR. A. P. WATT, THE PUBLISHER, *at the same address.*

RULES FOR CORRESPONDENTS.

OWING to the mass of letters which reaches us each week, we respectfully direct the attention of Correspondents, desiring replies in the LETTER-BOX DEPARTMENT of HEALTH, to the following rules:—

1. All questions are answered free of charge in the columns of HEALTH.
2. All letters must be legibly addressed to "The Editor of HEALTH, 2, Paternoster-square, London, E.C.," *and to no other address.*
3. Questions to which answers are desired by post, are so replied to solely at the Editor's discretion. If no answer is sent by post, the query will be replied to in the "Letter-Box" columns of HEALTH. A stamped addressed envelope must accompany all queries to which a private reply is desired.
4. Addresses of physicians and surgeons will, as heretofore, be forwarded FREE to Correspondents on their enclosing a stamped addressed envelope for reply.
5. Correspondents are requested to write on one side of the paper only, and to make their inquiries as brief as may be consistent with clearness.
6. From the necessity of sending HEALTH to press early in the week, no Correspondent can be replied to in the "Letter-Box" columns in the same week in which the inquiry is received. Replies crushed out of any issue will be found in the succeeding number.
7. No Post Cards must be used in sending queries. Violation of this rule deprives the sender of the privilege of a reply.

LETTERS TO THE EDITOR.

THE REMEDY FOR TIGHT-LACING.

SIR,—From time to time you insert articles in HEALTH on the evils of tight-lacing, but it seems to me you never hit the right nail on the head. Notwithstanding all the ills they know must ensue, *women* will not give up the habit; therefore, let *men* take the matter up, *they* can stop the practice in one generation. This is

my plan—let *fathers* resolutely forbid their daughters to wear stays before the age of twenty. Very few will then bear such discomfort; at all events, if they do, during the time of growth the vital organs will have been allowed to develop in peace. Should you doubt your girls' obedience, feel their waists; if your wives have not common sense, stop the supplies: but it is mean and cowardly to rail at the folly of women when the fault lies at men's own doors. Even doctors' daughters wear stays! Let men use the tyranny in a *just* cause they so well know how to exercise in other ways, and they will be free from blame as regards the ill-health of their daughters and granddaughters.—I am, sir, yours truly,

A. B. C.

QUERIES AND ANSWERS.

REPLIES: GENERAL, SANITARY, AND MEDICAL.

[Readers of HEALTH will kindly note that when back numbers of the journal are desired, the letters containing such requests and stamps for the numbers should be addressed to the PUBLISHER of HEALTH, 2, Paternoster-square, London, E.C., and *not to the Editor*.]

HOMO.—Read the pamphlet recommended to "Hope" in the present number, and follow out the instructions regarding diet it contains. You need not be uneasy, as you will get quite well by attending to the instructions indicated. If necessary, write again.

SNAPDRAGON.—1. After washing use a little cold cream or vaseline to the parts. This will probably allay and cure the irritation. Wash night and morning regularly with Bayley's Spermaceti Soap (17, Cockspur-street, Pall-Mall, S.W.), and for the rest simply avoid constipation. There is nothing definitely wrong with you, and which care in diet will not cure. 2. Avoid tricycling till you are quite well, then try moderate riding. 3. Better to abstain from beer at present. Try Bokōl to dinner as a suitable beverage.

HOPEFUL.—We advise you simply to wear a suspensory bandage and to bathe the parts night and morning with cold water to which a little Hazeline has been added. No operation is necessary unless the affection troubles you very much, in which case, consult a good surgeon.

NEMO.—Very probably you suffered on the march from a slight form of "heat-stroke;" and on the second occasion from pure nervousness. We advise you simply to be careful as to your diet, to continue your cold sponge bath each morning, and to take more open air exercise. Try the effect of taking, after your meals, fifteen drops Fer Bravais, twice daily in water, and let us hear how you are in a fortnight's time.

SUBSCRIBER.—[Will you please use a more distinctive name in future]. For the itching use Borthwick's Winter Cream (Selkirk, N.B.); and to increase your weight take a dessertspoonful of Scott's Pure Cod Oil Emulsion after meals, thrice daily, and let your food be of nourishing description. Rest after your food regularly.

ENQUIRER.—There is no fear of any such consequences as you dread: but it will ease your mind to have a medical opinion. Send us a stamped addressed envelope, and we will forward address of a reliable physician in your neighbourhood, whose opinion you may rely upon.

B. F.—Marshall's "Ptyaloid" is a food which would suit you—see advertisement in our pages. Try, also, Marshalls' "Tritola" and like preparations made into puddings. They are very nutritious, and will increase your body-weight.

F. OXLEY.—1. Give Dr. Pierre's Teeth Preparations a fair trial. 2. The Coca Cigarettes, certainly.

M. B. POWER.—1. We have no knowledge of the firm you name. 2. Bayley's preparations, 17, Cockspur-street, Pall-mall, S.W. 3. Messrs. E. Ward & Co.'s (of Bradford) Woollen Underclothing.

ALMA.—See and follow advice given to "Charles Dean" in last week's number. For dandriff rub a little glycerine of borax into the roots of the hair at night, or use the admirable preparation "Pomade Trichophile" of the French Hygienic Society, 56, Conduit-street, London, W. Wash the hair once a week with tepid water and Bayley's Spermaceti Soap, to be had at 17, Cockspur-street, Pall-Mall, London, S.W.

OMEGA.—1. No: may be used in summer. 2. Use Scott's Midlothian Oat Flour in preference. 3. Yes; it is a tonic and blood-stimulant. It should be taken after meals in water.

BENJAMIN.—The hands should be washed regularly with Bayley's Soap, recommended above to "Alma"; and after washing the affected parts should be dressed with lint and boracic ointment. Gloves should be worn to protect the hands till they are well.

HOPE.—Read the pamphlet "A Lecture to Young Men" (post free, for 1s. 1d., from Mr. Renshaw, 356, Strand, London, W.C.), and follow out its directions as to diet, &c. The pamphlet will show you how to avoid constipation by the use of Cascara Cordial and Oat Flour. See also advice on this head given to "Sick Man" in last week's HEALTH. You will get quite well by attention to the rules laid down in the book.

G. T. (Ulverston).—You are only exciting yourself needlessly and without cause. Read the pamphlet recommended to "Hope" above, and you will find full information therein.

SOLDIER.—Follow out the directions given regarding diet to "Sick Man" in last week's number, and note the effect of this treatment. You only require to regulate your digestion in order to enjoy good health. Let us hear result of this advice in a few weeks' time.

LIVRES.—You must avoid late suppers, and rest regularly after your meals. What you complain of, however, is often natural and a constitutional trouble. Care in diet and avoidance of all alcohol may, however, aid you. The tobacco will do you no harm.

G. R. S.—You will find all your questions fully answered in the pamphlet recommended to "Hope" in the present number. Follow the treatment therein indicated.

WILSON.—See advice given to "Livres" above. Your chief hope rests in strict attention to your diet and to resting after meals. The pill recommended to "Lobe" in last week's HEALTH might also be tried by you.

THATH.—[We cannot undertake to send you single numbers of HEALTH. Order the journal of your newsagent or stationer,

TO THE READERS OF "HEALTH."

THE extraordinary statements of General W. F. Nuthall, Captain J. Paige, Rev. C. G. Squirrell, Rev. James Brierly, M.A., J.P., and other prominent men that have appeared in these columns in the past, have not only attracted much attention, but have awakened doubts in the minds of some as to their genuineness. They were, however, correct in every particular, as the following local statements amply confirm:—

244, Brockley-road, Brockley, S.E., Nov. 25, 1887.—I feel it my duty to write and thank you for the bottle of Warner's SAFE Cure which I was persuaded to try, suffering as I have done for so long a time from indigestion and other complaints caused by a sluggish liver and disease of the kidneys. I had tried nearly all the remedies advertised without any good effect, and I am grateful indeed to my friend who recommended me to try Warner's SAFE Cure, for after taking only one bottle, I can truly say that I was astonished at its quick efficacy: it took away all my pains, and I feel quite another being. I have, and you may depend shall continue, to press all my friends suffering from the liver and complaints of the kidneys to take that medicine. You can make what use you like of this letter, as I am grateful to you for producing such medicine, which gave me the relief I had been seeking without avail for so long a time, and I can only hope that all suffering from the complaints named will be induced to try it.

(Signed) J. PRIOR.

40, Haymerle-road, Peckham, London.—I have long been suffering with gravel, for which I have tried many remedies, but derived no special benefit. I also consulted a noted specialist for the bladsage of gravel, and resulting in stone in the bladder. Two years ago I was obliged to undergo an operation, and had a very large stone taken from me, which gave me temporary relief; but the gravel kept passing and accumulating as formerly, the pains in the region of the loins and back were frightful, and I wasted away to a mere shadow, having when in health weighed 11 stone. I could not find any permanent relief until I commenced taking "Warner's SAFE Cure," which was recommended to me. Under its use I soon began to pass stones, of which some ten to fifteen large ones have come away, with a large quantity of gravelly sediment. The pains ceased, and I began to gain flesh after the first bottle or two. I consider the change a miraculous one, and my doctor compliments me on the wonderful way I have recovered since taking the "Warner's SAFE Cure." My husband is so pleased with the good the medicine has effected in my case that he is recommending it to everyone he meets. ROSE PENDALL.

Statements like the foregoing are certainly conclusive evidenc of the wonderful merits of this remarkable medicine. No better verification of its purity and power can well be asked. The above testimonials are not from unknown and obscure persons, residing in distant parts of the kingdom, but are the voluntary statements of neighbours and friends living in your own locality, the truth of whose assertions can be easily verified. Are not such proofs sufficient? We can show thousands of similar testimonials from people all over the world. Shake off prejudice! Use the favourite remedy—Warner's SAFE Cure—and enjoy health. For sale by all medicine vendors throughout the world, at 4s. 6d. per bottle, or can be had direct of H. H. WARNER, 86, Clerkenwell Road, London, E.C.

or subscribe for the journal for a year through the Publisher.] Royat Water certainly has a high reputation in cases such as yours. We should suggest that you be guided in the doses by a physician's advice, as each case must be judged on its own merits, and according to its own circumstances and needs.

WELSHMAN.—Simply due to nervousness, which may be natural to you. Mix freely in society, and try to exercise your self-control. Bathing can have no effect either way.

CYMRO BRYMBO.—The report you quote from is clearly that of a quack firm, who intend to frighten you into employing their "remedies" so-called. Read the pamphlet recommended to "Hope" in the present number, and follow out the advice it gives regarding diet, avoidance of constipation, and tonics. Try a cold sponge bath each morning, and keep your mind quite easy.

R. JACKSON.—1. Try the pills recommended to "Lobe" in last week's HEALTH, and regulate your diet according to advice given to "Mayfair" in that number. 2. Use the "Winter Cream," made by Mr. Borthwick, Chemist, Selkirk, N.B.

GIB.—Take a box or two of Dahl's Cakes (advertised in our pages) as a remedy against constipation, and use the Cascara Cordial as recommended to "Sick Man" in last week's number.

ANNUAL SUBSCRIBER.—Try the effect of an antipyrin tabloid (Borroughs, Wellcome & Co.'s) of five grains, taken thrice daily between your meals. You may obtain the tabloids from your druggist, or from the makers, Snow Hill, London, E.C.

A.—You could only make the preparation from the leaves of the plant. You had better, therefore, try the fluid already made from a wholesale druggist.

OCEANIA.—Attend to the rules for diet and general living in other respects laid down in the pamphlet recommended to "Hope" in the present number. Use the Cascara Cordial as likewise recommended.

R. THOMSON.—Give Dahl's Cakes (advertised in our pages) a trial for constipation, and make your dietary largely vegetarian for a time. You must, of course, persevere with the treatment since you have found benefit therefrom. Continue the Cascara.

PENITENT—Read the pamphlet recommended to "Hope" in the present number, and follow out its directions regarding diet, &c., and you will get quite well.

DEVIL'S CHAIN.—You will find full information on all points of cure in the book on "Inebriety," by Dr. Norman Kerr, fully reviewed in HEALTH, Nos. 263 and 264. Read what this author says on the subject of your letter, and note also the other excellent points dealt with fully in his volume. The work in question deals specially with the point you raise in a medical sense. Why not consult the author, who has had a large experience in cases like yours?

FOUNDRY.—Bathe the painful parts with hot water in which salt has been dissolved, and thereafter rub into the parts a little Bow's Liniment, which any druggist will supply. Clothe warmly and avoid chills.

NEBUCHADNEZZAR.—Read the pamphlet recommended to "Hope" in the present number, and for the rest note advice given to "Juncus" in HEALTH, No. 264. Smoke very little, if you are wise.

INDIA.—What you name is simply due to nervousness. You must simply look to your general health, but if you feel any tendency to faintness coming on, keep your head low, and if in a sitting posture, simply "put your head between your heels," as if you were picking up some object which had fallen. Fer Bravais in fifteen-drop doses, taken in water after your food, should do you good as a tonic.

RUSTICUS.—Continue to use the tonic you have been taking in a teaspoonful dose, twice daily, in water, after food. For the rest, be careful regarding exertion, and do not overdo exercise in any way. Regulate your digestion according to the advice given to "Sick Man" in last week's number. Do not meddle further with the spine.

MENS SANA.—1. Cycling in moderation would do good. Do not try racing or any long journeys, and wear E. Ward & Co.'s (Bradford) Woollen Underclothing as a preventive of chill. 2. No remedy, save mixing in society, mental self-control, and attention to general health. 3. Read "A Manual of Hygiene," by Dr. Andrew Wilson. You may obtain this book free if you send 10s. 10d. to the Publisher of HEALTH, entitling you to receive this journal, post free, for a year. See notice in each number of HEALTH regarding bonuses to subscribers.

HOPEFUL.—Regulate your diet, and take a little Vichy Water occasionally. Your sensations are more of mental than physical origin.

B. E. R.—The Geddes' Hemlock Bark Extract should be tried by you, and used regularly as directed.

PETER HARE.—1. Bayley's "Pomade Divine" is a capital remedy for such an affection—see advertisement in our pages. 2. Bayley's Tooth Powder and Tooth Wash. 3. About the age of eighteen or twenty.

NORAH S.—1. We are afraid there is no substitute for the sugar in such a case. Would not marmalade suit your case? 2. The small (relatively) amount of albuminoid matter in cocoa should not deter you from using it. Try Van Houten's. It is the best for you. There is a great deal of absurdity talked about gout and food, and there is no reason in the world why cocoa should not be used in your case, or a moderate amount of sugar either.

MAIDSTONE.—Write to the Secretary of the Sea-Bathing Infirmary, Margate, if that is the establishment you mean. We have never heard of a "Scrofula Home."

B. LETTS.—Give the Hemlock Bark Extract a trial. Apply as a lotion, as directed on the bottle.

A. SAFFRON.—1. About seventy. 2. 98·5 degrees Fahrenheit. 3. Bayley's Soaps, 17, Cockspur-street, Pall-mall, S.W., and sponge the parts with Bayley's Lavender Water after washing.

MUNGO.—The best drink of non-alcoholic nature is Bingley's Ginger Ale. Address Mr. Bingley, chemist, Northampton, for details. It is pure, wholesome, and eminently tasteful.

G. SAUNDERS.—Give up your tea, and try Van Houten's Cocoa instead for breakfast, rest after your meals, and take five drops Pure Terebene on a piece of sugar if flatulence after eating is experienced.

A. M. S.—1. Read and study carefully the pamphlet "A Lecture to Young Men" (post free 1s. 1d., from H. Renshaw, 356, Strand, London, W.C.). Therein you will find full and trustworthy directions regarding the tonic remedies which are necessary for your relief.

G. PARROTT.—You suffer from bronchitis. Clothe warmly and avoid chills, and take the following:—Chloride of ammonium, two drachms; spirits of chloroform, one drachm; simple syrup, three drachms; water to make up six ounces. A tablespoonful to be taken in water every four hours. After your recovery, take a dessertspoonful of Jensen's Cod Liver Oil after meals, thrice daily.

CORA.—"Sanitas" Powder and Fluid are the best. Use them regularly; steep the clothes before washing in a solution of the Fluid.

FOX.—Try the effect of a hot bath before going to bed, and of giving twenty grains bromide of potash once or twice daily, in a wineglass of water, when the symptoms are troublesome.

A. M.—The man is a quack, and has been swindling you. Read the pamphlet "A Lecture to Young Men" (post free for 1s. 1d., from Mr. Renshaw, 356, Strand, London, W.C.), and learn therefrom the true rules of health.

JAMES S.—The remedy should be very carefully used. We should prefer using a Sanitas Vaporiser, and by using Sanitas Fluid therein, and charging the air of the room therewith, the room will be purified. Apply to the Sanitas Company.

Certain HARNESS' Cure.
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